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10/786,585	02/24/2004	Inyup Kang	030374	4356

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EXAMINER

NGUYEN, SIMON

ART UNIT PAPER NUMBER

2618

DATE MAILED: 10/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/786,585

Applicant(s)

KANG ET AL.

Examiner

SIMON D. NGUYEN

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1, 3-7, 9, 11-16, 18, 21, 23-24, 26-31, 34-39 are rejected under 35 U.S.C. 102(a) as being anticipated by Yamada et al. (2003/0133337 A1).

Regarding claim 1, Yamada discloses an integrated circuit (semiconductor device) for a wireless communication device (a cellular phone) (paragraphs 3, 5, figs. 2, 7), comprising: an always-on power domain (A) including circuit blocks (11, 12) coupled to a first power supply (POWER SUPPLY) and powered on at all times (paragraph 45); and collapsible power domains (B, C), each collapsible power domain including circuit blocks ((13, 13a, 13b, 14, 14a) or (15, 15a, 16) coupled to a second power supply (first and second power supplies are the same as claimed in claim 7) via a respective power connection (via switches 17, 18) and powered on/off by the power connection (paragraph 48), wherein the always-on power domain determines power on and off states of all of the collapsible power domain (paragraphs 33, 42).

Regarding claim 23, Yamada discloses a cellular phone comprising a modem processor (A) to perform demodulation for the cellular phone (paragraphs 3, 5, figs. 2, 7), wherein the modem comprising: an always-on power domain (A) including circuit

blocks (11, 12) coupled to a first power supply (POWER SUPPLY) and powered on at all times (paragraph 45); and collapsible power domains (B, C), each collapsible power domain including circuit blocks ((13, 13a, 13b, 14, 14a) or (15, 15a, 16) coupled to a second power supply (first and second power supplies are the same as claimed in claim 7) via a respective power connection (via switches 17, 18) and powered on/off by the power connection (paragraph 48), wherein the always-on power domain determines power on and off states of all of the collapsible power domain (paragraphs 33, 42). It should be noted that a transmitter includes a modulator is inherently in a cellular phone, therefore, the modem processor as taught by Yamada inherently control both the modulation and demodulation of the cellular phone.

Regarding claims 27 and 34, these claims are rejected for the same reason as set forth in claim 1.

Regarding claims 3-4, 24, Yamada further discloses a timing chart for controlling sleep or active times to each parts of the phone and the receiving part is power off when it does not receive a message signal (figs. 4, 6, paragraphs 51-65).

Regarding claims 5-6, Yamada further discloses each collapsible having a switch for turning on/off the power supply, wherein the switch Yamada is considered as head-switch (17, 18 of fig. 2).

Regarding claim 7, Yamada further discloses the first and second power supplies are one common power supply (paragraph 48).

Regarding claim 9, Yamada further discloses the CPU as a power controller for controlling a control signal to power on/off the collapsible power domains (fig. 2, paragraphs 45-46).

Regarding claims 11-12, Yamada further discloses a sleep mode (fig.3) which means the power control including a sleep controller (paragraph 53) and a clock control (timer part 12) to control timing for turning on/off the parts B, C (paragraphs 45-52).

Regarding claims 13-14, Yamada further discloses output circuits (17, 18) for at least one output pin (wherein the output pin is where the power supply entered into the switch) of the integrated circuit (A) (switches 17, 18), each output circuit receiving an output signal from one of the collapsible power domain (connected from either B or C to the switch) (fig.2), wherein each output circuit includes a latch to maintain logic state of the output signal (fig.8).

Regarding claim 15-16, Yamada discloses switches 17, 18 for connecting always-on power supply part A to the collapsible parts B, C, wherein the switching part is considered as an interface (fig.2), or a line from the power supply to other parts 2, 3 via a switch 8 is considered a an interface (fig.1), wherein Yamada further discloses a clamping circuit (31) for clamping power to logic low or high and a level shifter (32) to translate between two different voltages (fig.8).

Regarding claim 18, Yamada further discloses a register for storing instructions, wherein the register is in the integrated circuit (fig.5, paragraphs 56, 59, 63) wherein the instruction for power supply in a CDMA is inherently a coding instruction

Regarding claim 21, Yamada further discloses the device is a CDMA system (paragraph 74).

Regarding claims 26, 31, Yamada further discloses a memory (register) for storing program code (instruction), placed in a self-refresh mode (boot process and restored) (paragraphs 59, 63-65).

Regarding claims 28-30, 35-36, Yamada further discloses the steps of receiving an indication to enter sleep and powering off one of the collapsible power domain (paragraph 54); latching logic states and releasing output pins (paragraphs 69-45, fig.8) (It should be noted pins are inherently in an on-chip semiconductor); saving and restoring the hardware states when it is powered on/off (paragraph 65).

Regarding claim 37, Yamada further discloses the always-on power domain independently determined power on/off state of each of the collapsible power domain (paragraph 42).

Regarding claims 38-39, Yamada further discloses sequentially powering on/off the integrated circuit (paragraphs 40, 41).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al (2003/0133337 A1).

Regarding claim 17, Yamada further discloses each power switch (17 or 18) including a transistor (wherein the transistor combined by a plurality of diodes) for switch on/off power supply to the collapsible parts (fig.8). it should be noted that in order to prevent shorting of power supply the sufficient number of electrostatic discharge diodes is a much in the transistor which is known to those skilled in the art.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al (2003/0133337 A1) in view of Hattori et al. (2002/0094840 A1).

Regarding claim 2, Yamada discloses a method for controlling power in a cellular phone, comprising one collapsible power domain for demodulating (13). It should be noted that a transmitter includes a modulator is inherently in a cellular phone. However, Yamada does not specifically disclose a collapsible power domain for a modulator.

Hattori discloses a method for controlling collapsible power to different parts of a wireless communication device (abstract, fig. 2), wherein one collapsible power domain including a modulator (via switch 33a to modulator 20). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have Yamada, modified by Hattori to cut off power supply to a transmitter when the phone is not in a transmission mode in order to save power.

6. Claims 8, 10, 22, 25, 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al (2003/0133337 A1) in view of Grayson et al. (6,219,564).

Regarding claim 8, Yamada fails to disclose two different power supplies.

Grayson discloses a cellular phone having two different power supplies (11, 27 of fig.1), which supply different voltages (column 2 lines 28-34, 58-65). Therefore, it would have been obvious to have Yamada, modified by Grayson in order to prevent disable of the phone when one power supply is defected.

Regarding claim 10, Yamada discloses the power control turns on the switches 17, 18 for the collapsible power domains B, C when a message is detected by incoming call determination part 14a and turns off when the incoming call determination part 14a does not detect any incoming signal (paragraphs 54-55), which is obvious the power control includes an interrupting controller. However, Yamada does not specifically say so.

Grayson discloses an interrupt control unit (CPU) for interrupting power to other parts of the phone as a way to save power when it is not in active (column 3 lines 33-65). Therefore, it would have been obvious to have Yamada, modified by Grayson in order to conserve power.

Regarding claim 22, Yamada discloses the device used in a CDMA system. However, Yamada fails to disclose used in a GSM.



Grayson discloses the power control used in a GSM system (column 1 lines 6-7). Therefore, it would have been obvious to have Yamada, modified by Grayson in order to converse power for a GSM mobile device.

Regarding claim 25, Yamada fails to disclose two oscillators.

Grayson discloses a mobile device having two oscillators one is a main oscillator, another is for a sleep mode (column 2 line 66 to column 3 line7).

Regarding claims 32-33, Yamada fails to disclose disabling/enabling clocks and power off/on an oscillator.

Grayson discloses de-activating/re-activating clocks (page 1 lines 21-35) and power on/off the oscillator (column 3 line 3). Therefore, it would have been obvious to have Yamada, modified by Grayson in order to converse power of the battery.

7. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al (2003/0133337 A1) in view of Foster et al. (6,715,085).

Regarding claims 19-20, these claims are rejected for the same reason as set forth in claim 1. However, Yamada fails to teach a boot code for configuring a memory system for the integrated circuit downloaded from an external non-volatile memory to the internal memory.

Foster discloses an integrated system in which an internal memory receives boot code for configuring a memory system for the integrated system, wherein the boot code is downloaded from an external non-volatile memory to the internal memory and used to executed the integrated system (column 9 lines 6-35). Therefore, it would have been

obvious to one skilled in the art at the time the invention was made to have Yamada, modified by Foster to easily update the new programming code in order to improve the system performance.

### ***Response to Arguments***

8. Applicant's arguments filed 8/3/06 have been fully considered but they are not persuasive.

Firstly, Yamada disclosed that the non-controlled power supply group 2 controls the entire semiconductor device 1, wherein the semiconductor device 1 comprises devices 3(1) to 3n (paragraph 33). Furthermore, Yamada also disclosed that the fig. 1 may be modified so that the power switch parts are integrally provided in the semiconductor device 1 by dividing the semiconductor device 1 into groups, wherein the divided groups are connected to respective power switch parts, which may be simultaneously controlled by the power supply system control part 5 or the next-processing necessity determining part in order to prevent huge current from concentrating on one power switch part (paragraph 42). From that teaching, Yamada disclosed that the always-on power domain determined power on/off states of all of the collapsible power domain.

Secondly, claims 19-20 have been reversed from the allowable subject matter to the rejection. Therefore, this Office Action is non-final rejection.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Simon Nguyen whose telephone number is (571) 272-7894. The examiner can normally be reached on Monday-Friday from 7:00 AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban, can be reached on (571) 272-7899.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
600 Dulany, Alexandria, VA 22314


Or faxed to:

(571) 273-8300 (for formal communications intended for entry)

Hand-delivered response should be brought to Customer Service Window located at the Randolph Building, 401 Dulany, Alexandria, VA, 22314.

Simon Nguyen

September 25, 2006

  
**SIMON NGUYEN**  
**PRIMARY EXAMINER**